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A NEW *OPIUS* AND TWO NEW SPECIES OF *MICROCTONUS* (HYMENOPTERA: BRACONIDAE)

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Recently a new species of *Opius* and two new species of *Microctonus* were received for identification. The *Opius* had been reared from larvae of the walnut husk fly, and the two *Microctonus* from adults of two different weevils. Since names are desired for use in biological studies the three species are described here.

Opius juglandis, n. sp.

This form falls in the *ferrugineus* Gahan complex, which I discussed in 1956 (Ent. News 67: 99–102). From all three species treated there it differs in having the propodeum smooth and polished basally, in its relatively shorter second abscissa of radius, in the unusually weak occipital carina, and in the longer clypeus and correspondingly narrower opening between clypeus and mandibles. From *muliebris* Mues. it differs further in having a greater number of antennal segments and a longer ovipositor; from *ferrugineus* Gahan in its longer ovipositor, and from *alloeus* Mues. in having the dorsal keels of the first tergite very weak or indistinct on the apical third.

Female.—Length about 3.8 mm. Head about as broad as thorax; face twice as broad as long and with a few scattered punctures; clypeus flattened, its apical margin slightly, broadly rounded, not emarginate as in the other three species mentioned above; opening between clypeus and mandibles very narrow; malar space a little shorter than basal width of mandible; temples convex, not receding; antennae of the specimens examined 39- to 43-segmented.

Mesoscutum smooth and polished, with a median dimple-like

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[1] U. S. National Museum, Washington, D. C.

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impression before posterior margin and deep notauli anteriorly setting off a prominent median lobe. Propodeum weakly rugulose, and with a large, transverse, smooth and polished area at base each side of a very short median longitudinal keel. Mesopleuron smooth and with a broad longitudinal impression below that is weakly foveolate. Metapleuron largely smooth and shining but somewhat roughened posteriorly. Second abscissa of radius not longer than first intercubitus and not more than one-third as long as third abscissa of radius. Recurrent vein entering second cubital cell. Postnervellus distinct, straight, nearly parallel with nervellus.

Abdomen in widest part a little narrower than thorax. First tergite longer than broad on caudal margin, longitudinally striate, and the two dorsal keels well developed basally but becoming obsolescent beyond middle; remainder of abdomen smooth and shining, except occasionally the second tergite with a few weak and short striae medially at base. Ovipositor sheath fully as long as the body.

Honey yellow. Tips of mandibles and the stemmaticum black. Antenna blackish except for scape below. Fore and middle tibiae a little dusky; hind tibiae blackish except narrowly at their bases; fore and middle tarsi each with the apical segment black. Wings hyaline, stigma and veins dark.

Male.—In all significant respects like the female, except that in the only specimen I have seen in which they are complete the antennae are 47-segmented.

Type-locality.—Portal, Arizona.

Type.—U. S. National Museum No. 65523.

Described from 19 females (one, the holotype) and 1 male reared from *Rhagoletis juglandis* (Cress.) July 26, 1960, by S. E. Flanders. The National Museum has 14 additional specimens reared by Dr. Flanders from the same host, at the type locality, in 1959. These are not included in the type series, however, since they are not in very good condition.

Microctonus pachylobii, n. sp.

This is most similar to *M. vittatus* Mues., but it may be distinguished immediately by its unusually large eyes, longer radial cell and extraordinarily short female antennae.

Female.—Length about 2 mm. Head much broader than thorax. Eye very large, its transverse diameter greater than width of face and more than twice width of temple. Malar space less than half as long as basal width of mandible. Face smooth or only very weakly shagreened. Antenna about as long as head and thorax combined, 18-segmented in all specimens seen, first flagellar segment noticeably longer than second and a little narrowed basally, flagellar segments 9 to 15 at least as broad as long. Occipital carina complete or only very narrowly interrupted medially.

Notauli complete, foveolate. Middle lobe of mesoscutum with scattered, large though shallow, punctures. Mesopleuron smooth and shining medially, roughened above and below. Metapleuron completely and strongly rugose reticulate. Propodeum rugulose, its posterior face broadly and shallowly excavated. Radius arising from middle of stigma; radial cell on wing margin much more than half as long as stigma. Nervellus a little longer than lower abscissa of basella.

Abdomen a little narrower than thorax. First tergite about twice as long as broad on caudal margin, carinately margined at the sides both before and behind spiracles, which are at about the middle of the tergite. Postpetiole finely longitudinally aciculate; remainder of abdomen smooth. Ovipositor sheath about as long as hind tibia.

Honey yellow. Antennae dark beyond first flagellar segment. Stemmaticum black. Thorax sometimes with indefinite dusky shading. Wings hyaline, stigma and veins yellowish.

Male.—Like the female except for somewhat smaller eyes, and much longer antennae which are usually 24-segmented and have all the flagellar segments much longer than broad. Vertex, occiput and dorsum of thorax more or less piceous.

Type-locality.—Olla, Louisiana.

*Type*s—U. S. Nat. Mus. No. 65524.

Described from 22 females (one type) and 8 males reared from adults of the weevil *Pachylobius picivorus* (Germar) May 20 to June 8, 1957, under Hopkins U. S. Nos. 36237 and 36245.

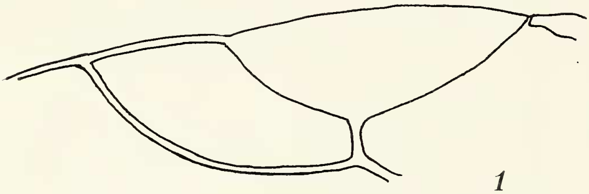
Microctonus invictus, n. sp.

This species runs to couplet 4 in my published key to the Nearctic species of this genus (1936, U. S. Dept. Agric. Misc. Pub. 241:15). It differs from *mellinus* (Prov.) in having the lateral lobes of the mesoscutum largely glabrous and the radial cell hardly half as long as the stigma; and from *eleodis* (Vier.) it is distinguished by its larger size, longer antennae, much larger eyes and narrower face and temples.

Female.—Length about 4 mm. Head wider than thorax; eye very large, wider than face and more than twice as wide as temple, which recedes strongly from eye. Malar space less than half as long as basal width of mandible. Face smooth and shining.

Ocellocular line less than twice diameter of an ocellus. Antennae as long as the body, very slender, 27-segmented in the two known females, all segments at least twice as long as thick. Occipital carina strong, very narrowly interrupted medially.

Thorax shining, sparsely hairy. Notauli well impressed, foveolate, meeting at posterior margin of mesoscutum; a triangular rugulose area before juction of notauli. Surface of mesoscutum



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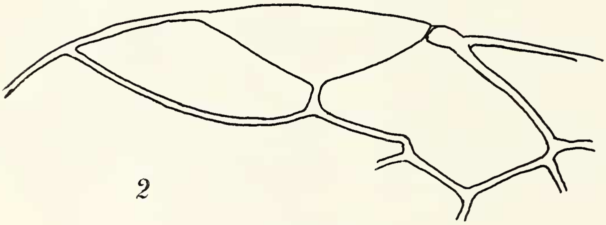

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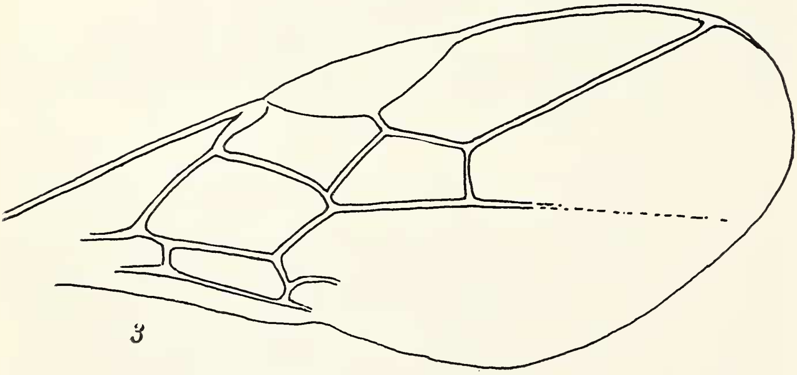

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Fig., 1, *Microctonus invictus,* n. sp., stigma and radial cell. Fig. 2, *Microctonus pachylobii,* n. sp., part of forewing. Fig. 3, *Opius juglandis,* n. sp., forewing.

not punctate, the lateral lobes largely glabrous. Side of prontoum finely rugulose except above where it is smooth and polished. Mesopleuron smooth, with a shallow impression below that is irregularly punctate rugulose. Propodeum rugose reticulate, its dorsal face strongly convex and its posterior face somewhat hollowed out medially. Metapleuron completely closely rugulose. Stigma large and emitting radius from slightly beyond its middle, fully twice as long as radial cell measured on wing margin. Nervellus much longer than lower abscissa of basella which is much shorter than upper abscissa. Hind tibia very long, longer than hind tarsus, its calcaria subequal and about one-fifth as long as metatarsus.

Abdomen not as wide as thorax. First tergite more than twice as long as wide on posterior margin. Spiracles a little behind the middle. Petiole slender and nearly smooth, postpetiole longitudinally striate; remainder of abdomen smooth and polished. Ovipositor sheath a little shorter than hind tibia.

Brownish yellow. Antennae brownish black except basally. Wings hyaline, stigma brown, veins paler.

Male.—Essentially as in the female. Antennae 33-segmented in the single known male with complete antennae. Mesopleural impression a well defined furrow that is coarsely foveate.

Type-locality.—13 miles N. E. Desert Center, Riverside Co., California.

Type.—U. S. Nat. Mus. No. 65525.

Described from two females (one type), from the type locality, and one male from Kelso, San Bernardino Co., California, all reared by E. R. Tinkham from adults of *Trigonoscuta* sp., the females on April 2, 1960, the male on April 30, 1960; and one male collected at Yuma, Arizona, on March 30, 1940, by L. S. Henderson.

PUBLICATIONS RECEIVED

Evolution above the Species Level, by Bernhard Rensch, translated by Dr. Altevogt and edited by Dr. T. Dobzhansky, 419 pp., 113 figs. 1960. Number XIX of the Columbia Biological Series. Columbia University Press.

Principles of Animal Taxonomy, by G. G. Simpson, 247 pp., 30 figs. 1961. Number XX of the Columbia Biological Series. Columbia University Press.